

Hamilton (Geo.)

A D D R E S S

DELIVERED BEFORE THE

PHILADELPHIA COUNTY MEDICAL SOCIETY,

February 24, 1869.

BY

GEORGE HAMILTON, M. D.

AT THE CLOSE OF HIS OFFICIAL TERM AS PRESIDENT.

PUBLISHED BY ORDER OF THE SOCIETY.



PHILADELPHIA:
COLLINS, PRINTER, 705 JAYNE STREET.
1869.

Dr. Geo. Keell
with the respects of Dr. Hamilton
ADDRESS

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ADDRESS.

GENTLEMEN OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY:—

IN compliance with a duty incumbent upon each retiring President of the Society, it falls to my lot, on this occasion, to address you. Nor is the task thus imposed entered upon with reluctance: for, however the thoughts about to be presented may fail to interest and instruct, or suggest anything in relation to our calling, of a useful character, a confidence is felt that the spirit of kindness and indulgence shown to me during the time of my connection with the Society, and made especially manifest in placing me in the chair of presiding officer, will not now be wanting. Moreover, I am afforded the opportunity to acknowledge this kindness, and to renew my thanks for the honor conferred. When I revert to the character and position of my predecessors in this chair, distinguished, as some of them have been and continue to be, in the possession of a large and successful practice; of others, eminent as writers and conspicuous as members of literary and scientific institutions; and of others yet, whose fame as authors and teachers of medicine has not been confined to our own shores, I should indeed be wanting in sensibility to permit the present moment to pass without again renewing to you the expression of my grateful appreciation of the unexpected partiality evinced toward me. We propose, Gentlemen, in the remarks to be offered, to take a cursory glance at medicine. The profession to which we belong, and the vocation to which we devote our lives, are peculiar in their character. We have to do with the health and lives of the people. The preservation of health, its restoration when impaired, and, as a sequence, the prolongation of the term of life, are the great

objects of medical science and art. The position, then, we occupy in the community, it is self-evident, cannot be, and is not exceeded in importance by that of any other class of men.

What in fact will a man not give in exchange for his life; of what avail are all the pomps that wealth can afford, or the posts of distinction and honor that merit or fortune has secured, or the crowns which adorn the brow of Poet, Warrior, or King, to him who drags out an existence harrowed daily by the perhaps too well founded dread that he is about to become the victim of a deep-seated and irremediable malady; or, who is already suffering the torments of a fully developed and painful disease? How serious, then, is the responsibility resting upon the practitioner of medicine, and how conscientiously should he hearken, and respond to every noble impulse to duty, that the community or individuals may not be disappointed in their reasonable expectations, nor have just cause to complain, that the physician is insensible to, or disregarding of his professional obligations!

A scrupulous discharge of duty by the physician is, indeed, in many cases, and especially in country practice, a most difficult one; and, in the performance of it he is not unfrequently beset with trials and surrounded by difficulties and hardships of no ordinary character. But on entering the field of practical medicine he has self-imposed the obligation to fulfil, to the best of his ability, the duties of his profession; and whether called during the leisure moments of a balmy evening of the spring-time to the sumptuous chamber of the rich man, or summoned at midnight, amid the howlings of the wintry blast, to the hovel of indigence, wretchedness, and woe, can he refuse to obey, unless with the poignant reflection that he has been recreant to the call of duty. So far, however, as the regular profession is concerned, we believe no great cause for blame in this respect exists; for it is well known that clinical attendance upon the poor, whether in the charity-institutions or in families, is nearly all performed by members of the regular faculty.

But there is another point in the faithful discharge of duty to be constantly kept in view; and this is exemplified in the necessity of keeping pace in knowledge with whatever advance is made in practical medicine; so that whether such advance is seen

in the elucidation of some heretofore obscure physiological problem, suggesting a surer indication for treatment; or in the discovery of some more positive agency for the removal of disease than was formerly known, our patients may obtain the full advantage of such progress in medical science and art. Nor is the advantage in such cases confined to the patient alone; for, by pursuing the course indicated, we place ourselves beyond the reach of any unreasonable fault-finding on the part of patients, or the disparaging remarks of professional rivals. Yet with all our efforts in this direction, immunity from undeserved censure is not always possible, nor is it to be expected; and where we may not have sufficient of the "milk of human kindness" and forbearance to suffer patiently a conscious wrong, it is the part of wisdom to manifest no resentment in word, deed, or deportment; for, it is to be remembered that censure of the medical attendant is not often premeditated, but is generally the result of temporary impulse, and not unfrequently proceeds from an imperfect appreciation of the intricacy of the case.

Our professional life is environed with many and inherent difficulties. Medical practice, in some crude form or other, has doubtless existed from the Creation; and this fact, coupled with a candid and truthful view of its present imperfect status, proves but too conclusively the correctness of this position. We have to do with the living organism, in its totality, or, in regard of its separate organs; with its different systems of nerves, bloodvessels, secretory apparatus, and tissues. We have to discover, when possible, the pathological states of this organism, and these systems of organs; and to this end not only have the most patient and profound researches been prosecuted, with a view to determine what are the functions of the various organs of the economy in health, and their aberration or perversion in disease, but the microscopist, the histologist, and the chemist have, at a comparatively recent period, entered the field of minute research into the character of the ultimate elements of organization, and their movements, constituting the phenomena of life, with an energy and perseverance worthy of all praise. Yet the actual condition of medicine, as seen in the numerous, and even discrepant theories in reference to the causation and nature of morbid processes, and in the mode of operation of medicinal and other

agencies in the removal of disease, proves clearly enough that much yet remains to be accomplished in order to establish a perfectly rational practice. That medicine, as now pursued by the regular practitioner, is productive of better results as regards the cure or prevention of disease than formerly, cannot be doubted. It could not well be otherwise, having in our possession, as we do, the experience of ages. We have had time to ponder well the various theories of disease, and the modes of cure proposed by the physicians of the earlier and more recent times; and to institute, in practice, comparisons between their success and that obtained in the present day. What, however, is of much more value now to the physician, is the greatly improved methods of research to determine, as far as possible, the real character of the functions of the various organs in health or disease; and, by the use of instruments and appliances, nearly or quite unknown to the ancients, to elucidate the composition of the primordial molecules of organization, and their vital actions. But we would cast no disparagement upon what has been accomplished by our predecessors in medical science and art.

When, in fact, we extend our view back through the many centuries that separate us from the great "Father of Medicine," we are filled with amazement at what he or possibly his predecessors had already accomplished in medicine. May we not surmise that more was effected in proportion to the knowledge and means at command in those remote ages, than has characterized later periods? The pre-eminence to which Hippocrates had attained was evidently the fruit of the closest, most assiduous, and prolonged bedside observation, his great natural capacity for such observation being much augmented by constant training: the lesson thus afforded should not be lost to us.

If, in glancing through the many centuries subsequent to Hippocrates, our object were to fix upon some few of the many distinguished men who have graced our profession, to whom modern medicine is more particularly indebted for valuable contributions, we should have to approach within a not remote period of our own time. To Bonnet, Valsalva, and Morgagni would our attention be first directed. To the first, as seen in his vast collection of cases recorded in the "Sepulchretum;" but more especially to the last named, as displayed in the great work of his

lifetime, "*De Sedibus et Causis Morborum*," and to which he owes an imperishable renown, must be accorded the pre-eminence. The publication of the volumes just referred to may be viewed as the foundation of modern medical practice. To these vast repositories of recorded cases of disease and their post-mortem appearances, have followed others of a similar kind; conspicuous among which is the "*Anatomie Pathologique*" of Cruveilhier. From the date of the latter work up to the present moment there has been no remission in the labors of the morbid anatomist; and as a rule it may be said that in proportion as these labors have approached our own time so have they furnished more definite information in regard to the ravages of disease, and rendered clearer and more precise the modes of treatment. This improvement in pathological anatomy is, in great measure, the consequence of the discovery of more perfect methods of physiological investigation; and the revelations of the modern pathologist hold about the same relation to those of the physiologist of the present time, as did those of the earlier pathologist to the physiology of the same period. The early physiologists and pathologists might, perhaps, be likened to what was long ago said, by a French author, of the anatomists of his day: "That they resembled commissioners who knew very well what was the condition of the streets of the city, but were ignorant of what was going on inside the houses;" whilst we must candidly admit that the modern physiologists and pathologists have, by the aid of improved arms—chemistry and the microscope, broken into the houses, determined if possible to see what is being enacted within the walls.

The assiduity and perseverance that have characterized those engaged in this line of research are such as to challenge our admiration; and we are free to confess a doubt, that the physician has, in bedside observation, shown as much constancy and devotion as have marked the career of the biologist and morphologist during the last thirty years. That the labors of Schleiden and Schwann, and those of their numerous followers in the same path of research, have not always been crowned with a success commensurate with the energy exhibited in the prosecution of their investigations, detracts nothing from the meed of praise that each ingenuous mind accords them; but must be accepted as the un-

mistakable proof of the extremely difficult and widely extended field of research upon which they have had the courage to enter ; and, that further time and study must be given to this, the most abstruse of all subjects pertaining to a rational treatment of disease.

We have alluded to the still defective status of practical medicine ; yet if a comparison be instituted with that of earlier times, the progress made in the means of prevention and cure of disease will be found to be as decided as could be expected. In a practical point of view three principal periods, in the history of medicine, attract our attention : the first, extending from the time of Hippocrates to that of Valsalva and Morgagni ; the second, reaching to the time when Schleiden and Schwann announced the cell theory of organization ; and the third, including the thirty years which have elapsed since that theory was promulgated. So great was the fame of the sage of Cos, and so unbounded the influence of his opinions and practice through succeeding ages, that the most of those who followed him, as medical authors, were glad and ambitious to identify their own views with those of the "Father of Medicine." Hence we find he is equally claimed by the empiric and dogmatist of that time ; nor have some of the empirical and rational physicians of the present day agreed any better in defining his true position as a practitioner. That Hippocrates was not wholly empirical must in candor be admitted ; and that he was still less entitled to the name of rationalist, as now received, admits of no question. No one having the intellect and powers of observation he possessed could, especially at the time in which he lived, fail to perceive that the method of close and continued observation adopted by him was that which would insure the greatest advantage to his patients. Much of the opposition to his opinions and practice, manifested by some of those who wrote after him, seems to have been the fruit of ambition mortified in beholding his overshadowing reputation ; in other instances the opposing views advanced were apparently candid, and founded in more frequent opportunities of observation ; whilst in others yet, the superstition and darkness of the times were but too manifest.

If we extend our observation to that which was accomplished by the more conspicuous of the Roman and Arabian medical

authors, it will be found to consist, for the most part, as before intimated, in the ready support given to the opinions and practice of Hippocrates; in the elucidation of the history of certain diseases, to the study of which they had especially devoted themselves; and in the creation of a system of Polypharmacy, most repugnant to modern ideas of medication. That we are indebted to some of these writers, and even to others living in later and darker times, for valuable contributions to medicine, must be admitted; yet their influence upon practice, at the present time, can scarcely be considered as very decided.

Valsalva and Morgagni may be regarded as the founders of a new era in medical practice. The assiduous devotion of these great men to the examination and study of the ravages of disease, as illustrated more especially in the great work of the latter, could not be lost on their compatriots. The advantages obtainable from a comparison of the phenomena of morbid action, and the results of that morbid action, as seen in the organs implicated after death, and especially when the post-mortem examinations were so frequently repeated, and with so much more precision than in earlier times, could not escape the notice of any intelligent observer; and hence, the study of pathological anatomy extended itself throughout Italy, and thence to Germany, England, but, above all, to France. Here it received most attention, and as a sequence, its most perfect development, through the labors of Pinel, Cruveilhier, Breschet, Andral, Louis, and others. The duties of the morbid anatomist, at this time, were not a little facilitated by the great progress made in physiological science, and more especially by the extraordinary work of Bichat, the "*Anatomie Générale*." To this work is practical medicine, probably, more indebted than to any other of modern date. Whatever precision may have characterized the examination of diseased organs during the career of Valsalva and Morgagni, was far exceeded, at the time we allude to, in the more perfect and philosophical method suggested and exemplified in the work just mentioned. To certain observations, however, of Dr. Carmichael Smith, and more particularly, to the "*Nosographie Philosophique*" of Pinel, does Bichat seem to have been indebted for the first conception of his great work. Since the time of Bichat, the examination of morbid organs and tissues has been unceasing

throughout the civilized world; and to these researches, conjoined with the clinical observations of Sydenham, Baglivi, Boerhaave, Lænnec, Hunter, Marshall Hall, Armstrong, Stokes, Graves, Andral, Louis, and many others of equal reputation, is mainly to be ascribed the improved condition of medical practice then seen, and deemed to be, at the time when the last two authors wrote and practised, well nigh rational.

But one step forward, and in the right direction, is generally the precursor of another; and so it happened here. A new set of observers appeared on the horizon, Schleiden and Schwann occupying the foreground, closely followed by a numerous band of laborers in the same path, supplied in large proportion from their own Fatherland, but joined by many others, in France, England, and elsewhere. These were and are the men of progress; some of them models of patient perseverance in their difficult career; others, again, men of subtle and profound thought, yet diffident of their powers, and cautious in pronouncing definite solutions of the mysteries of organization and life. The position assumed by these recent investigators, as manifested by the line of physiological and histological research entered upon, served to show that whatever progress had previously been made in physiological and pathological science, fell, in their judgment, far short of what a truly rational system of practice demanded. The mode of operation of medicines in the cure or prevention of disease was, in very many cases, but slightly known; yet there was every reason to believe that to some modification of the nature and action of the ultimate molecules of the organism must the action of medical agents be attributed. To determine, then, if possible, what was the constitution, physical and chemical, of these molecules; in what their differences consisted, and more especially to attain to some definite idea of their mode of being and acting in the normal state, were the primary objects of research. For it was, no doubt, ever present in the minds of these inquirers, that until the natural and healthy movements, and the laws governing these movements, were at least in a measure determined, no important progress in arriving at a knowledge of a normal or perverted action was possible; and that, without this knowledge, a rational basis for medication was unattainable. The unremitting research that characterized and still marks the career

of those engaged in these laborious pursuits has already been alluded to; and, as before intimated, if they have only in a slight degree succeeded in their efforts, it need cause no surprise. If their object had been to examine into the material mechanism and mode of operation of some vast and ponderous machine, or to determine the intricate construction and movements of a most minute, delicate, and complicated work of art, with a view to their reparation when deranged, no difficulty of an insuperable character would present itself; for these are but the work of man, can be taken to pieces, each rectified and replaced as before. The task of the biologist is far different; his business is with the living, ever-moving organism; this, too, in the secret recesses of cell life, where slight changes in composition or action may take place from various causes even in usual health.

The physiology of the last thirty years is, in fact, a new creation: and, compared with the earlier, is vastly extended in its range, seeking as it does to reveal the mysteries of organization and vital movement. The first and least difficult step in this direction is, as before stated, to determine the physical and chemical constitution of the primary molecules of the organism; and this has been in part accomplished: for it must be confessed that we are almost entirely indebted for what we know of the intimate composition of the various tissues and fluids of the body, to the labors of the modern physiologist. The more arduous and important task of elucidating the actions and reactions of cellular organization, of determining their relations to each other, and the laws to which their movements are obedient, is scarcely advanced beyond the first step, if indeed this is not yet to be taken. If such, then, be the difficult and embarrassing nature of normal physiological research, how greatly must this be augmented in morbid physiology! In the former, the investigator has to experiment upon and examine tissues and fluids whose status is fixed, or, at furthest, is subject to but slight variations; and he has to study processes, regular, or nearly so, in character: whilst the pathologist, following in the same line of research, is met at every step with the altered, and ever and anon changing action of an impaired organism; for the molecules of the tissues, glands, and blood have a reciprocal action, so that change in composition of the tissues and organs leads to change

in the blood and secretions, and the reverse. It is not difficult, then, to foresee that, if a truly rational practice of medicine can be established only upon a known *modus operandi* of medicinal agents upon a clear appreciation of the difference between normal and morbid physiology, we are yet far from a condition that would justify an early expectation of realizing this "consummation so devoutly to be wished."

The physiologist, in his ardent and laudable desire to unravel the mystery of vital phenomena, yet frequently foiled in this attempt by the use of the ordinary means and appliances resorted to for this purpose, has been compelled to have recourse to the supposition of some general, all-pervading force or influence, to whose power all the phenomena of organized nature are due, and to the laws or conditions of whose operation they must of necessity be obedient. This conjecture is, in itself, a not unreasonable one, and so far as the analogies observed in the physical creation can be thought worthy, in this connection, of our attention, might be regarded as well founded; yet it is still to be proven that it possesses any more value than another supposition, namely, that the ultimate molecules of the organism, by virtue of something special in their structure, or in the relationships of their surroundings, enjoy all the powers requisite for the maintenance of life; and this, in fact, is the view preferred by a large proportion of the more eminent physiologists of the day. That heat, light, or electricity, separately or combined, or some modification of these elements, may be the "primum mobile," does not account for what is known to occur in the organism, where it is shown that each kind of cell structure is *sui generis*, and has, as it were, a special power of selection; the muscle cell, the fat cell, or any other appropriating to itself from the blood that which is in consonance with its own nature and requirements; for it is in this way the growth and nutrition of the body are effected. If, however, it could be clearly proven that the general force alluded to was chiefly influential in the causation of vital movement, it does not hence appear how that meagre fact could afford any clear perception of the nature of this movement, normal or morbid; and hence the inference is reasonable, that a basis for a truly rational practice of medicine would still have to be sought

by the physiologist, the microscopical anatomist, and chemist, in the recesses of cell life.

Each tissue and organ has its own peculiar sensibility and mode of action; and it is precisely by virtue of this special sensibility and mode of action that each tissue and organ is what it is: and thus continues so long as no disturbing element intervenes to mar the harmony of normal action. Were it not for this peculiarity of organization, impressed by the power of the Omnipotent, no certainty would exist that the liver or the pancreas, or any other gland, would continue day by day to furnish for the purposes of the economy the different secretions which are the product, and can alone be the product of such molecular constitution as the respective glands possess; nor could there be any assurance of health for a single day to the individual of the most prudent and well-regulated life. The task of solving the problem of the processes of life, shrouded as these are in obscurity, is one that presents difficulties almost inconceivable; and it would be nothing strange were generations to elapse ere its final accomplishment, supposing, indeed, this be not beyond the pale of human effort. Who, in fact, will at the present time undertake to explain impressions upon the retina in reference to form and color, or upon the organ of hearing in regard to sound, or upon the tongue and olfactory organs in the causation of this or that taste or smell; or can we discern by what vital chemistry, if the expression be not inappropriate, the liver furnishes bile; the pancreas, the salivary, and other glands their own peculiar secretions; all drawn from the same source, the blood current, or in what way every part of the body, solid or fluid, obtains for its growth and support exactly that portion of the blood necessary for its purpose, and rejects that which is not in unison with its nature, or is positively harmful? Or do we any better comprehend why the food of one animal is the poison of another, apparently not very dissimilar in organization; or can we explain why an attack of a certain disease gives immunity from a second attack of the same malady; or in what way the preservative influence of vaccination is effected; or what is the mode of action of fright upon the mother's milk, and of this, as a sequence, upon the nursing infant, that convulsion or sudden and violent disturbance of the stomach and bowels ensues? Can we assign a

reason why certain morbid substances or medicinal agents manifest a disposition to exert their power upon one tissue or organ in preference to another, or solve the mystery of a rare idiosyncrasy in which a single grain of medicine has been known to exert a five-fold greater effect than in ordinary cases?

From the remarks just presented it must not be inferred that we regard modern physiologists and pathologists as having accomplished but little that is capable of being made useful in our daily intercourse with the sick. This would be to misapprehend our views, and to misconstrue the spirit in which these observations are made; for, as previously admitted, nearly all our knowledge of the intimate structure of the body, solid or fluid, and the molecular movements, so far as known, is due to the researches of these men; and the information already furnished by them has been productive of immense advantage throughout the civilized world, not so manifestly, perhaps, in curative medicine, as in the more extended and important object of hygiene and prophylaxis. And if, by further examination into the constitution of organized matter and its processes, the latter shall be shown to be dependent upon some special force of a general character, or to originate in the peculiar physical and chemical nature of the molecules, and the mode of operation of such force shall be proven to be obedient to certain laws, then will a new and more glorious career open before us in our efforts to relieve suffering humanity.

As just stated, curative medicine has perhaps not been advanced to the extent many practitioners had been led to expect, as the natural result of so many discoveries in physiology since the time of Schwann. A gain in therapeutics, in reference to blood diseases, and various nervous maladies, is probably the most conspicuous advantage hitherto obtained; and this is, in fact, a very important one, in view of the great and apparently increasing prevalence of these affections. Nevertheless, it would doubtless be impossible to designate any similar period of time in which so great a progress in general practice had been effected. But we have, perhaps, been expecting too much. Twenty-three centuries have now elapsed since Hippocrates penned those observations, reflections, and opinions which still shed so much lustre upon his name. From that remote period until the appearance of Valsalva and Morgagni, the condition of medicine presented

numerous and varied phases; at one time illuminated by the writings of learned and thoughtful men; at another obscured by the darkness that was everywhere diffused, and again brightening in the light that characterized the time of the distinguished names just mentioned. From this period there has been no flagging; and when at length the era of Bichat and Louis arrived, so greatly had anatomical, physiological, and pathological knowledge increased, and with such assiduity had this knowledge been brought to bear upon practice, it was thought by many that little more could be hoped for in furnishing a basis for a rational system of medicine than had then been accomplished. But the physiologist and pathologist of the time, though far in advance of their predecessors, were accustomed to pursue their examinations and studies, in nearly the same line of research formerly practised, yet carried them out to a greater extent, with more precision, and with more definite deductions in regard to treatment, and, consequently, exercised an extraordinary influence in practical medicine.

But the new era in physiology, and, as its natural sequence, in pathology, suddenly opened upon us. It was no longer a question of the mere form or gross texture, or more obvious functions of the various organs and tissues of which the organism consisted; but the more serious and important point was to determine, and this for reasons before hinted at, what was the character of the ultimate molecules of which these tissues were composed; and as it was long before known that the phenomena of vitality were more conspicuous in the capillary system, so was the inference natural, that to reveal, if possible, in what vital movement consisted, it would first be necessary to ascertain the composition, form, and connections of the primordial elements concerned in the production of such function; and hence, as the result of this view, the cellular physiology and pathology. The extraordinary advantages to practical medicine hoped for from this mode of research, and especially when it was seen that men of no ordinary stamp were chiefly engaged in the new path of investigation, were strongly impressed upon the minds of many practitioners in Europe and our own country; nor was the, perhaps too ardent, hope of a truly physiological basis for practice materially impaired, until a comparatively recent period, not, in fact, until

it was evident that the further these minute investigations were pushed, the more extended did the field of observation become, and the obscurity in certain directions was such as to render further advance, as regarded the time or the mode of its accomplishment, uncertain. To a candid avowal of the difficulties encountered in the new mode of research, and to the intimations from time to time, on the part of those engaged in these studies, that the period might be far distant before a perfectly rational system of medicine could be established, was, in part, owing the partial loss of confidence of early realizing the advantages in practice at first anticipated. And, to the credit of these investigators into the arcana of vital movement be it said, they have at no time shown a desire that what has hitherto been accomplished by them should be accepted as a sufficient basis for a thoroughly rational practice. Virchow has taken occasion to allude to the vast influence upon practice of the doctrines of Bichat, and others of his time, compared with that following the announcement of the cellular physiology by Schwann, and this, too, without evincing much surprise. Nor need this statement cause any wonder: for no one knows better than this famous author the difference, in actual practice, between having in our possession, on the one hand, a certain though limited number of facts thoroughly established, and fully appreciated in their collateral relations, affording thus a just basis whereon to reason, and thus deduce the proper mode of treatment; and, on the other, having to deal with a multiplicity of phenomena—some of which are recognized as having the value of well-founded facts—yet so interwoven with others of an obscure, uncertain, and inappreciable character, as to afford no sufficient ground, even to the clearest perception, and most accurate judgment, whereupon to establish a legitimate and rational deduction, in regard of the therapeutic indications to be fulfilled. To attempt then to found our practice at all times upon what some have termed a purely rational basis can, as physiology now stands, only lead to embarrassment and failure. The practice of medicine, in the time of Bichat, Louis, Stokes, and Graves, held, perhaps, a closer relationship to the physiology and pathology of that time, than practice does now to cellular physiology and pathology, and for very obvious reasons. The pathological basis of the former period

was one that could be more fully appreciated; it was tangible: it presented itself to the naked vision, to the touch, to the observation of the senses in general, and only required for its development a good eye, and the constant use of the scalpel, or some other equally gross instrument, in the hand of one who had rendered himself perfectly familiar with the organism—not in its minute structure, but in its perfectly healthy condition—so far, at least, as this was palpable to the senses. The result of this mode of procedure, taken in connection with the more simple physiology of the time, was well nigh definite in its therapeutic teachings: for the vague conjectures and equally vague systems of medicine of the more remote periods had been lost sight of, and in their stead had arisen strict bedside observation, post-mortem examination, reflection, and a spirit of philosophical induction. In this way, exempt from the thousand and one complexities that beset the now more extended and intricate path of the pathologist, they exerted an influence upon practice that continues to the present time.

One of the greatest advantages, however, of the present minute research into the phenomena of life is, undoubtedly, found in the necessity for still closer observation, more profound reflection, and cautious induction. So varied are the forms of matter, normal or anormal, so numerous and complicated their relationships, and so wide asunder in the purpose which each is destined to perform in contributing to the unity of the whole, that the fullest opportunity is given for the exercise of the faculties alluded to; and nothing, perhaps, so clears and strengthens the perception, and confers the power of generalization, so important when numerous phenomena or facts, at times apparently contradictory, are to be assigned their proper place and significance. Allusion has been made to the progress made in the treatment of nervous affections, now so prevalent as the result in part of a more inactive, studious, and luxurious mode of life. Although we are indebted to Marshall Hall and other accurate observers of his class for much of the improvement now perceptible in the treatment of these cases, it is still evident that we are under obligations for a good deal of what we know in relation to this subject to the researches of later experimenters and investigators. It is not a very long time since nearly every affection that presented any

signs of vascular turgescence, or inflammation, or fever, was treated by depletory measures; and this practice, in the more sanguine subjects, was often followed by relief: but the knowledge of the extremely close connection and sympathy of the vascular and nervous systems, more fully developed in recent times, has been the occasion of a marked and beneficial change in the management of these maladies. If mention of an instance of extraordinary severity and where the striking features of the attack were perceptible to the sight may be permitted, we would state the case of a young woman under our care many years since. She was attacked three mornings in succession with pain in the eyeballs and frontal region of such excruciating character that in a few hours the eyes would become as red and apparently inflamed as in severe ophthalmia; and by the middle of the afternoon she would be perfectly comatose, the eyelids standing wide open. The attacks began about the middle of the forenoon: at bedtime the greatest violence would be over; and between midnight and daylight she would be free from pain, and the eyes would assume in a great degree their natural color. Cupping, on the second day with quinine, and the latter repeated on the third day, before the time of attack, failed to arrest it: but opium combined with the quinine, and given on the morning of the fourth day, forestalled the return of the overpowering agony of the three previous days. The most influential agent was probably the opium.

The proper treatment of disease depending upon or connected in some way with altered state of the blood has also been placed upon a surer foundation, through the special investigations of modern pathologists and chemists: and by the discovery of medical agents adapted to rectify such deviations from the normal state. So also in regard to a variety of anomalous affections arising from deficiency of blood has an improvement in practice been effected: for instead of endeavoring to remove the train of variable, and sometimes discordant symptoms, so often noticed in this condition, and founded in the sympathy of distant organs, the more rational method of operating upon the whole system by means of medicine acting directly upon the blood and tissues, conjoined with a well-devised regimen, exercise and ventilation, has been adopted with marked advantage.

It is not intended by these remarks to imply that the improved mode of treating these affections is chiefly due to the discoveries in pathology of those who have confined their attention mainly to microscopic and chemical examinations of the blood and tissues. The present advanced state of general medical practice and hygiene is the product of all that has preceded, from the earliest records in medicine to the time in which we live. The observations, the experiments, the science, and the philosophy of all antecedent times find their illustration and expression in the status of medicine as it now exists. This status is not one of empiricism; nor, can it be at all times purely rational: neither has legitimate medicine at any time from Hippocrates until the present moment been exclusively empirical or rational. The phenomena of disease, closely studied and compared with what is recognized as the normal condition of the organism, together with strict attention to the effects of the curative agents employed, furnish hitherto the best attainable basis for successful practice. But the symptoms of disease are not in every instance perfectly clear and definite, as signs of the abnormal condition. They may be irregular as to the time or order of their appearance; some of them unusually prominent or the reverse; others again may be uncertain as to their connections; or symptoms of an anomalous character may be superadded: in a word, the malady does not present its normal features. The predominance of the nervous temperament at the present time adds to the difficulty; for it is not always possible to say whether a given disorder be functional or organic; and if the latter, whether it be so primarily or is ingrafted upon a long-continued functional disorder. When, however, the perceptive faculties have done all they are capable of doing, when observation has been close and assiduous, when former experience has been appealed to, and still the nature of the disease is not sufficiently clear to indicate what the remedial means should be, we are necessarily compelled to reflect, compare, and judge, or, as some might say, to theorize. But to theorize is to think; and provided we have as a basis a few thoroughly established facts (not supposititious facts from which to deduce others more worthless because still more remote from a true foundation) we need not hesitate to enter upon the only remaining path open to a rational being. Great caution, however, is here necessary, for the

natural desire of an energetic mind is to overcome obstacles; and, perhaps, to accomplish so desirable an object some would be tempted to wrest a fact, or be oblivious to the force of an objection, in the lurking desire to make the chain of reasoning coincide with a preconceived bias. A safe rule for guidance in such cases is that long since established by some of the great minds of our profession, namely, to accommodate our theory to the facts and not the facts to our theory.

The milder, or, as it is commonly termed, the conservative method of treatment now relied upon as that affording the most favorable statistical results, finds much support in the present state of physiological science. But there is another important reason for the change alluded to. As a rule, man possesses at the present time a less robust constitution than formerly. The vascular system has, neither in health nor disease, the force it once had; on the contrary, the activity of the nervous system is much augmented, and this is just what might be expected from his altered mode of life. It is highly probable, also, that other causes, of an occult character, have had some influence in effecting this change; nor will this view seem improbable, if we reflect upon the changes manifest in certain vegetable organizations, and yet not susceptible of explanation. Whatever the reason may be, it is obvious, for many years past, that disease, especially of an acute kind, is not so active and violent in its movements as formerly. An appeal to the experience of the older writers, and to that of many living physicians, will render this view of the subject at least highly probable. The more conservative treatment now practised may, in part, be accepted as the recognition of this change in constitution; and is, in part, as before said, to be attributed to the teachings of a more advanced physiology. For, in reference to the latter point, it is to be observed that the difficulty, in many cases, of determining the precise causal connection of normal and abnormal action, and what the difference between the two consists in, and the uncertainty of the mode of action of the medicinal substance employed, have suggested the necessity of more than usual caution in the use of the more active therapeutic agents. Yet, in those exceptional cases where disease develops itself with sudden and great violence, and in which the indications are unmistakable (and it is in just such cases that

this is apt to occur), we must hesitate not a moment in the adoption of such measures as the urgency and dangerous character of the symptoms require; for, here, promptitude in the use of means can alone insure success. In every instance we are to study the value of each symptom separately, and then collectively, that we may not grope in the dark in the selection of the drug to be employed; ever remembering that, for one agent suitable for the case there may be many unsuitable or positively harmful. In every instance of a doubtful kind, let nature have the benefit of such doubt; for, whatever of ridicule may, by some, be attached to the idea of a "*vis medicatrix nature*," it nevertheless exists, and will continue to exert its healing power so long as man shall exist.

But the treatment of the sick does not consist merely in the administration of medicine. Some of the most successful practitioners we have ever known were noted for the great attention given by them to general remedial measures. The importance of these was early impressed upon my mind by my revered preceptor, the late Dr. Thomas Hewson; and later experience, especially in fever and dysentery, has satisfied me that strict attention to the support of the strength (for this diminishes from the moment of invasion, no matter how active the excitement), by the use of such food and drink as are suitable to the nature of the case; a regard to the condition of the body and bedclothing, ventilation and the proper admission of light, as to direction and amount; with the use of means to procure sleep, or at least composure, and the removal of everything within sight or hearing of the patient of an annoying and therefore harmful character, have conduced, in many instances, as much, probably more, to the recovery of the patient as the medication employed. That so much additional importance has, for a good while past, been attached to the value of these general measures, and that too by some of the best minds and most distinguished teachers in the profession, may be regarded as another evidence of the conservative tendency of the time; and it may be said that in acting upon this principle, we place ourselves by the side of the modern surgeon, whose eminence is no longer determined by the dexterity and despatch with which he amputates a leg or an arm, but by

the penetration and sagacity he discovers in devising the means necessary for the preservation of the limb.

The cursory glance at medicine and medical practice thus presented, will probably suffice to show the correctness of what was said in the opening of this address—that the vocation of the physician is one of difficulty, of trial, and serious responsibility. Yet, the disposition to engage in the study and practice of medicine was, perhaps, never so great as at the present time, although the course of study in medicine is now, or is presumed to be, greatly extended in its character, compared with that of many years ago, and would seem to require, on the part of those entering into it, a corresponding preliminary education. It is, however, doubtful that as many thoroughly educated young men, in proportion to number, are now devoting themselves to medicine, as thirty years since; and this circumstance, in part, finds its explanation in the fact that the number devoid of the necessary education is evidently greatly on the increase. Now, nothing is more obvious than that there are far more practitioners than the necessities of the public require; and experience shows that when a profession is overcrowded the community gains nothing valuable by it, and the status of the profession is, in every way, depressed. Owing to a better understanding of the hygienic measures necessary for the health of populous places, a diminished mortality has, for several years past, been observed; and, from the more general diffusion of a knowledge of the laws of health, and a favorable change in the surface of the soil, from culture and other causes, the country in general enjoys a comparative exemption from diseases at one time very prevalent and fatal. These, and other considerations of similar import, are either lost sight of, or otherwise are disregarded; for the disproportionate number of physicians to patients is every year augmenting. One reason for this condition of things is seen in the facility with which new colleges are founded by legislative enactment. If a few physicians, of either sex, or conjointly, and scarcely known in the profession, resolve to form a college, the necessary power is readily obtained from the Legislature, and hence the inordinate number of these institutions of every character, regular, irregular, or mixed; and some of those, adroitly called regular, belong, doubtless, to the latter class. The hetero-

geneous materials gathered together as a professorial corps, the peculiar sort of building, or apartments in which the instruction is given, or attempted to be given, and the appliances for promoting the progress of the students, have, in some instances, been of so ludicrous a character that they might well serve, as a subject of satire, the pen of another Rabelais or Molière.

In view of all this, may we not agree in sentiment with a distinguished surgeon, and teacher of our own city, that if one half the colleges throughout the country were to rest from their labors, the community would suffer no detriment, and the profession no loss worthy of regret? One rather surprising circumstance, in this connection, is the fact that so many persons of excellent standing are willing that their names should appear as officers in institutions of the kind alluded to. The motives of these gentlemen are not to be impugned; it is therefore to be supposed that in the permission granted, they have acted without sufficient consideration, or have yielded, in the kindness of their nature, to some importunities difficult to withstand; and thus, as too often happens in other relations of life, the welfare of the community is, perhaps unintentionally, sacrificed to the selfish purposes of individuals.

With the design of securing a better preliminary education, and also a more extended and thorough course of medical instruction, even where the colleges were known to be well founded, and provided with competent teachers and means for tuition, it was long since recommended to private instructors and professors to adopt such measures as were judged suitable to effect the object desired. Only a partial success has hitherto rewarded this praiseworthy movement. The prospect, then, of reaching, by means of this healthful influence, the irregular colleges, or others established upon no sufficient foundation (the offspring, rather, of that self-sufficient spirit the poet doubtless had in view when he wrote, "A little learning is a dangerous thing"), is, apparently, too remote to afford any ground to hope for its early realization.

But, fellow members, we have, perhaps, already, too much trespassed upon your time and patience. Leaving, then, this unpleasant part of our subject, we will close with a single remark: there is hope in the future. The present, with all its

achievements in science and art, is but the harbinger of a better time. The noontide effulgence is yet to come, and medicine will have its share of advantage in this greater diffusion of light; but, ere its arrival, the patient and diffident worker in the field of science will be confronted at every step by the ignorant, the half-learned and presumptuous, who would fain usurp the honors of a field they disgrace. That the right will prevail no one doubts—save him who doubts the final triumph of Truth.

